



Advanced Programming:JAVA - 24837 - CSCI 310 - 001 - Fall 2017

11:00 am - 12:15 pm TR Wubben Hall and Science Center 205

Instructor and Communication Information

Instructor	Dr. Warren D. MacEvoy
Office	WS 119F
Phone	970-248-1070 email is preferred.
Email	wmacevoy@coloradomesa.edu - have a clear subject line!
Office Hours	1:00-1:50 Monday - Friday in WS 119F
Communication s Policy	I check email daily. You must have a clear subject line or I will probably skip the email.
Assignment Grading and Feedback	The instructor will attempt to return grades and feedback on your assignments within two weeks after the due date. Since these assignments are large virtualized systems, your assignment will often come from a demonstration of the configured system(s).

Course Information

Course Title	Advanced Programming:JAVA - 24837 - CSCI 310 - 001
Class Time	11:00 am - 12:15 pm TR
Classroom	Wubben Hall and Science Center 205
Prerequisites	CSCI 111 CS 1 or CSCI 110 Intro Programming
General Education Requirements	<i>None.</i>
Drop Date	October 18

Credit Hours	3 (45 contact hours)
Lecture Hours	3
Lab Hours	0
Other Hours	0

Course Catalog Description

Exploration of a higher level programming language for CSCI/CISB majors. Specifics will vary with the language covered. Prerequisite: CSCI 111 or CSCI 110.

Lecture

Required Text and Supplies

I strongly recommend that you set up version control (preferably github) for management of your development and add me as a collaborator (wmacevoy github user) so I can see your work there. Projects are otherwise managed on the K: drive.

Lesson/Instructional Materials

We will use a variety of online resources and you will have to be independently motivated to learn and build your final project. You will need to install Oracle Java SE 8 and Netbeans, which are available on the campus lab computers, and the Android Studio development environment. Since Android Studio is going through so many updates and we will not need it until later in the semester, I recommend that you do NOT install it until mid-semester since it may need a major upgrade in any case by the time we start using it.

Learning Objectives

Our goal is to learn about the Java programming language, focusing mostly on the Java SE flavor, but branching to both Android for mobile development. We will cover software version control (git), testing (kiss/junit), the JVM, the object-oriented structure of Java, GUI application development using JavaFX and Android.

Methods of Evaluation/Grading Policy

Grade Items	Percent (or points if not using weighted categories) of Final Grade

Projects	50%
Final Project	25%
Tests	10%

GRADING	SCALE
A	90 -100%
B	80 - 89%
C	70 -79%
D	60 - 69%
F	Under 60%

Assignments

Project grades: Version Control 20%, Tests 20%, Working 40%, Design 10%, Patina 10%

Turn in on Github - One repo for all assignments

Use different branches for different assignments

Edit the README.md in your master branch with notes on each assignment and a link to the branch/source

1. Hackerrank (on K:)
2. Collections
3. Test Collections
4. Give up on Kiss (JUnit tests, main entry point) Due: Nov 1.

Testing

We will have some written concept tests that may involve in-class coding or pseudo-coding.

Supplemental Help

If you wish to discuss academic accommodations, please contact me as soon as possible. Specific information about Educational Access Services and the Tutorial Learning Center is included under General Student Services in this Syllabus.

Attendance Policy

Let me know ahead of time if you can't be here for a due date.

Course Correspondence

All communication in this course will be made via your CMU email account. Please include the title of the course and section number in the subject line (i.e, CSCI 306 - useful subject line) Check your email regularly throughout the semester. I will respond within 48 hours.

Plagiarism and Academic Integrity

Academic dishonesty is the intentional act of fraud, in which an individual seeks to claim credit for the work and efforts of another or uses unauthorized material or fabricated information in any academic exercise. Academic dishonesty also includes, but is not limited to: (1) Forgery/fabrication/falsification/plagiarism of academic documents; (2) Intentionally impeding or damaging the academic work of others; (3) Assisting others in acts of academic dishonesty; (4) Cheating in the classroom; (5) Unauthorized attendance; (6) Multiple submissions; and (7) Unauthorized collaboration. Any academic misconduct may be reported to the Department Head and Office of Academic Affairs and may result in a failing grade, suspension, or dismissal.

These policies are outlined at:

http://www.coloradomesa.edu/academics/policies/academic_integrity.html

Netiquette

"Netiquette" refers to the etiquette by which you should abide when using online services for your classes and campus communications. This includes email, social media, online chat, blogs, online discussions or message boards, instant messages, etc. Although you are participating in course activities and using course materials online, the [CMU Student Code of Conduct](#) still applies. Online participants are expected to behave in a respectful manner that is supportive to other learners, participants, and faculty.

Online behavior should foster an environment that is productive and thoughtful. Netiquette provides

guidelines for facilitating this positive atmosphere. Some basic principles of netiquette include:

- **Be respectful.** Remember that you are communicating with actual people. Be courteous and show respect, even if you have differences of opinion. Remember to treat others as you'd like to be treated. Good manners apply online as well as in the traditional classroom.
- **Think before you post.** Follow posting directions and examples. Be aware of who may be able to view your posting, and how your post may be interpreted. Try to maintain a fair and objective tone.
- **Stay on topic.** Make sure your communication is related to the subject and does not wander off-topic. Ask questions that are appropriate and relevant to the topic. Keep academic discussions free of "chit-chat".
- **Write clearly.** Even though the online environment may seem more informal than your face-to-face class, you are still in an academic course and mature communication is expected. Correct spelling and grammar are required. Proper sentence structure and punctuation should be used. Avoid abbreviations and "text speak."
- **Use appropriate language and style.** Profanity or offensive wording is not acceptable. ALL CAPS and repeated punctuation (???? or !!!!) is considered rude and should be avoided. While it is okay to have robust discussions and differences of opinion, avoid inflammatory wording 'flaming' that might start arguments. To disagree, use language that encourages intelligent discourse and discussion. Ignore statements by others that appear inflammatory.
- **Be considerate of others.** Do not make derogatory, condescending, or harassing remarks. Communication should be well-intentioned and well-articulated. It should foster a positive learning environment. Be aware of how sarcasm may be misinterpreted by your readers. Bullying, threatening, or abusive language will not be tolerated.
- **Allow for misunderstandings.** Keep in mind that writing can often convey the incorrect tone or intention. Make allowances for unintended rudeness or misunderstanding.
- **Cite your sources.** If you post work that is not your own or contains work that is not your own, be sure to reference your sources.
- **When in doubt, do not send or post.**

Technology & Technology Skill Requirements

You will need basic computer skills and should be comfortable using a word processing program, browsing for files, and copying and pasting between programs. You will need a computer that connects to the Internet. Your username and password are required for access. If you do not own a computer or if your computer

malfunctions during the term, you will be expected to identify a computer to use. Technology issues are not an excuse for missed or late work.

Colorado Mesa University strongly prefers students use the following technology minimums: DSL/Cable modem and high-speed Internet connection, Microsoft Windows XP or later, Microsoft Office 2003 or later, and Java Runtime Environment 7.

Technical Help

If you experience a technical problem, call the Help Desk at (970) 249-2111 to receive technical support in the following areas:

- Usernames and passwords
- Desire2Learn
- MavZone
- Microsoft Office products
- Connecting to the wireless network
- Desktop computer hardware installation and troubleshooting
- Desktop software installation and troubleshooting
- Network file storage

For more information, visit the CMU Help Desk website at: <http://coloradomesa.edu/it/helpdesk.html>

Withdrawal Statement

Regular class attendance is expected. CMU is required by law to verify the enrollment of students who participate in Federal Title IV student aid programs and/or who receive educational benefits through other funding sources. CMU is responsible for identifying students who have not attended or logged into a class for which they are registered. At the conclusion of the first week of a semester, instructors will report any registered students who have "Never Attended" a class so that those reported students will be administratively withdrawn from that class. However, it is the student's responsibility to withdraw, using the appropriate CMU form, from any class which she/he is no longer attending or risk receiving a failing grade in that class. Student's wishing to withdraw must complete and submit the appropriate CMU form by the established withdrawal deadline.

General Student Services

Educational Access Services: If you are a student with a documented physical or learning disability and need an accommodation for this class, you must contact the Educational Access Services Office, 248-1801, at the start of the semester.

- The **Tutorial Learning Center (TLC)** is a **FREE** academic service for all Colorado Mesa University students. Tutors are available on a walk-in basis for many courses. Do you have a quick question? Do you need homework clarification or feedback on a paper? Are you reviewing for a test? Help is available at the TLC!
At the main campus, come to Houston Hall 113 to meet with one of our friendly peer tutors. We are open on Monday through Thursday from 8am-6pm and Fridays from 8am-5pm. We are also open Sundays from 1pm-6pm! Tutoring at branch campuses and distance tutoring is also available. Check out the website for schedules and locations at www.coloradomesa.edu/tutoring or call (970) 248-1392 with any questions.
- **Research Assistance at the Tomlinson Library:**
CMU's professional librarians are an excellent resource for helping you to find the best research to support your academic work, evaluate articles and electronic information, and cite the articles and images that you use in your papers. We are here for you!
Find us: in the Library at the Research Help Desk Mon-Thurs 8am-9pm, Fri 8am-5pm, Sat 10am-5pm, and Sun 1-9pm; via online chat 24/7 at coloradomesa.edu/library; by email at library@coloradomesa.edu; or by calling 970.248.1860.
- **Student Services:** The Office of Student Services works to support CMU students in all aspects of college life, by offering a vast array of services, resources and programs that make each student's time at Colorado Mesa University as exciting and successful as possible. Student Services works collaboratively with faculty, students, and staff to create a campus community that fosters the growth of students as strong individuals and productive citizens. To learn more, go to <http://www.coloradomesa.edu/studentservices>.
- **Financial Aid:** Financial aid staff is dedicated to assisting you in sorting through the various forms of student financial aid. We believe that by helping you take advantage of a variety of available resources, you will find an education at Colorado Mesa University is attainable. Our office is located in the lower level of Lowell Heiny Hall, Room 116. Our phone number is (970)248-1396, or you may contact us via email at financialaid@coloradomesa.edu
- **Advising Center:** Advisors can assist students with course selection and registration, major exploration, and identifying strategies for academic success. The Advising Center is committed to promoting academic success and in facilitating students to attain their educational goals. We are located in Lowell Heiny Hall, on the lower level, room 127. Our phone number is (970)248-1177, or toll free at

1-800-982-6372 (option #7 or extension 1177). Our FAX number is (970)248-1267. You can also reach us via email at advising@coloradomesa.edu. Appointments are scheduled from 9:00 to 4:00, Monday through Friday. Please call a week or two in advance of your desired appointment date to schedule. Bring your picture ID, as failure to do so may result in a rescheduled appointment.

- **Business and Financial Services Office:** The Business and Financial Services Office is located in the lower level of Lowell Heiny Hall. Our staff is available to assist you Monday through Friday from 8:00 am to 5:00 pm, MST. Our phone number is (970)248-1567, our FAX number is (970)248-1136, or you may contact us via email at businessoffice@coloradomesa.edu

Course Schedule

Week	Tue	Thu
20-Aug	2017 22-Aug 1	2017 24-Aug 2
27-Aug	2017 29-Aug 3	2017 31-Aug 4
3-Sep	2017 05-Sep 5	2017 07-Sep 6
10-Sep	2017 12-Sep 7	2017 14-Sep 8
17-Sep	2017 19-Sep 9	2017 21-Sep 10
24-Sep	2017 26-Sep 11	2017 28-Sep 12
1-Oct	2017 03-Oct 13	2017 05-Oct 14
8-Oct	2017 10-Oct 15	2017 12-Oct 16
15-Oct	2017 17-Oct 17	2017 19-Oct 18
22-Oct	2017 24-Oct 19	2017 26-Oct 20
29-Oct	2017 31-Oct 21	2017 02-Nov 22
5-Nov	2017 07-Nov 23	2017 09-Nov 24
12-Nov	2017 14-Nov 25	2017 16-Nov 26
19-Nov	2017 21-Nov *Thanksgiving*	2017 23-Nov *Thanksgiving*
26-Nov	2017 28-Nov 27	2017 30-Nov 28
3-Dec	2017 05-Dec 29	2017 07-Dec 30
10-Dec	2017 12-Dec *Finals*	2017 14-Dec *Finals*

Course Topics

Git/JDK/Netbeans/JUnit

Hello World

Primitive types + Strings

Methods/Functions

Branches/Loops

Classes/Objects

Static

Lambda

Streams

Android

Task # 1 -- Install Java 1.8 JDK and Netbeans 8.2

Java SE Development Kit

<http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>

[check accept license agreement and download the appropriate jdk --- your laptop is 64 bit]

Netbeans

<https://netbeans.org/downloads/>

[Java SE]

Task # 2 -- GitHub integrated with NetBeans:

<https://docs.google.com/document/d/1TKdqNfTGnZPs419RbXxnRHV8ztpoe2nMAYnG-pt27Mg/edit>

Pick a problem in open.kattis.com, solve it *with tests* and put it in a git repo.

Task #3 - use collections to maintain sets/lists/maps of objects of your own design. Test that the operations work as intended and submit via a branch in git. Add a direct link to the assignment on the k: drive

Task #4 - Sql (maybe sqlite) Due Oct 31

Task # 5 - Thread/Streams Due Nov 7.

Task # 6 - Android Hello World

Errata

Android Studio

Android Studio download does not contain SDK
Download SDK Tools separately (put it in like /Developer/android-sdk-macosx, or
c:/sdk/android-sdk-windows)
Start studio ->
 Configure -> Project Defaults -> Project Structure -> [Put in the directory above in box]
 backup
 Configure -> SDK Manager (used to be greyed out) check off x86 accel (last package) and choose
 “install 17ish packages” wait....x

Java Class Notes

<http://www.oracle.com/technetwork/java/javase/downloads/jdk-netbeans-jsp-142931.html>

<http://www.oracle.com/technetwork/java/javase/downloads/sb2download-2177776.html>

<https://netbeans.org/>

<http://maven.apache.org/>

<https://github.com/>

<https://desktop.github.com/>

Adding SQLite to your project:

Download JDBC sqlite connector from

<https://bitbucket.org/xerial/sqlite-jdbc/downloads/sqlite-jdbc-3.8.6.jar>

Create “/lib” folder (like c:/projects/java/SQLite/lib) in your project root directory and place this jar file in that directory.

OS X: You have sqlite

Ubuntu: sudo apt-get libsqlite3-dev

Windows: <http://sqlite.org/2014/sqlite-dll-win32-x86-3080600.zip>

Unzip file and place sqlite3.dll in your lib directory

project (right click on project in solution explorer)->project properties->run->VM Options

Add -Djava.library.path=”c:\projects\java\SQLite\lib” (wherever you put it) to the VM Options

http://www.tutorialspoint.com/sqlite/sqlite_java.htm

Installing Android Studio

Download [android studio](#)

On OSX the [SDK is a separate download](#) - your mileage may vary, I installed it in /Developer/android-sdk-macosx. Run the tools/android, I checked the Intel x86 Emulator Accelerator but left the other defaults alone. Then “Install 17 packages”

When launching android studio, drive through

configure|project defaults|project structure|sdks

To pick off the SDK (if you see no whining, it might be part of the install already for you)